Industrial Maintenance Coatings

IRONCLAD®
QUICK DRY INDUSTRIAL ENAMEL
Including OSHA Colors & Piping Color Marking Codes

Product Description

A top quality, rapid drying, alkyd enamel, formulated lead and mercury free.

Use: Manufactured specifically for general purpose industrial maintenance and for protecting the heavy equipment required by farm and industry. Suitable for interior and exterior wood or metal.

Recommended for a variety of industrial surfaces including doors, trim, piping, danger areas, heavy machinery and equipment as well as structural steel where decisive colors are a factor.

Finish: All Colors High Gloss except Flat Black.

Package Sizes

Gallons and Quarts.

Available on special order—
  5 Gallon Buckets
  55 Gallon Drums

Colors

Flat Black and Tinting White as well as a full line of OSHA Safety Colors and basic standard colors selected to meet major industrial requirements.

Light colors can be made by adding up to 1 tube (1.6 fl. oz.) MOORE'S Universal Tinting Colors to a gallon of Tinting White. Do not intermix or add tinting colors to Safety or Standard Colors.

Product Statistics

Spreading Rate: 450-550 sq. ft. per gallon.
Drying Time: Set to touch in 1 hour; dries to handle in 3-4 hours; ready for recoating in 12-14 hours.
Dry Film Thickness: Average 1.2 mils @ 500 sq. ft. per gallon, depending on color.

Thinning: Not normally required. For spray application, Quick Dry Industrial Enamel can be reduced 15-25% with VM&P Naphtha.
Cleanup: Mineral spirits.

Special Characteristics

Application Advantages:

• Can be brushed, rolled or sprayed with good, wet-edge retention.
• Has good flow with excellent sag resistance.

Maintenance Advantages:

• Comes in specially formulated safety colors.
• Extremely durable on exterior wood or metal surfaces; possesses exceptional weather resistant qualities.
• Its sharp, long-lasting high gloss and toughness of finish make it an excellent, multi-purpose enamel.
• Also available in an equally durable, flat finish Black.
• Dries rapidly.

Specifications

Previously Painted Wood or Metal in good repaint condition: Apply one or two coats IRONCLAD Quick Dry Industrial Enamel.

Unpainted Wood or surfaces severely weathered or abused: Prime with IRONCLAD Quick Dry Industrial Enamel Primer. Finish with Quick Dry Industrial Enamel.

New or Previously Painted Metal where rusting is a problem: Prime properly prepared surface with a rust inhibitive primer such as IRONCLAD RETARDO Rust Inhibitive Paint or IRONCLAD Zinc Chromate Primer. Finish with Quick Dry Industrial Enamel.

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Surface Preparation

All surfaces must be dry, clean and free of dirt, grease or oil. If previously painted, sand or wirebrush to remove loose and scaling paint or to dull glossy areas.

Application

Can be applied by brush, roller or spray gun. Stir paint just before using. Avoid painting in frosty or very damp weather. Temperature of air and surface should be 50° F. or higher and expected to remain so until paint is dry.

IRONCLAD° QUICK DRY INDUSTRIAL ENAMEL
Including OSHA Colors

Bright Blue 071 33	International Orange (New Shade) 071 67	Schoolbus and Equipment Yellow 071 11
Battleship Gray 071 71	Dark Green 071 45	Light Blue 071 30	Deep Red 071 23

Also Tinting White 071 02, Flat Black 071 81, White Primer 071 00

The following Quick Dry Industrial Enamel Safety Colors meet ANSI specification Z53.1 and strictly comply with the OSHA standards for color coding physical hazards.

Safety Orange 071 62	Safety Yellow 071 09	Safety Green 071 41
Safety Red 071 21	Safety White 071 08	Safety Black 071 82	Safety Purple 071 38

since all color chips are affected by age, light, heat and mechanical coating processes, the chips on this card may vary slightly in color or finish from the actual paint in the container.

MOORE'S, IRONCLAD and RETARDO are registered trademarks of Benjamin Moore & Co.

IRONCLAD°
Quick Dry Industrial Enamel
WHITE PRIMER
071 00

A white, alkyd primer formulated specifically for use under IRONCLAD Quick Dry Industrial Enamel. Required only as specified on new wood, non-rusting metal, or surfaces that have been severly weathered or abused. Except when used under very light colors, priming coats should be tinted with MOORE'S Universal Tinting Colors to approximate shade of finish coat.

OSHA SAFETY COLORS

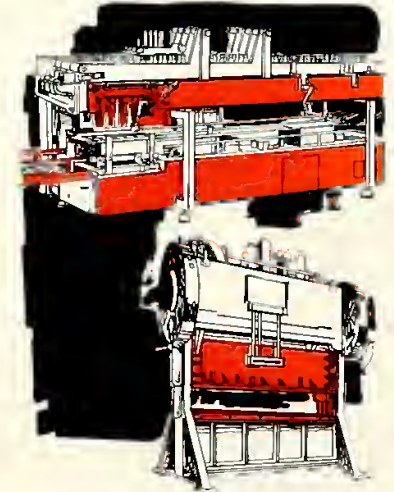## FORMULATED WITH IRONCLAD° QUICK DRY INDUSTRIAL ENAMEL

The Occupational Safety and Health Act (OSHA) became law on April 28, 1971, and requires that all industries must color mark physical hazards, the location of safety equipment and the identification of fire and other protective equipment.

The American National Standards Institute (ANSI) established the color code which was adopted by OSHA. It is intended that use of this code should supplement the proper guarding or elimination of hazardous conditions. The marking of a physical hazard by a standard color warning should never be accepted as a substitute for the complete elimination of this hazard whenever this is possible.

The OSHA Safety Colors as shown conform to the OSHA and ANSI specifications and are available in Benjamin Moore's IRONCLAD Quick Dry Industrial Enamel.

Orange:

Shall be used as the basic color for designating dangerous parts of machines or energized equipment which may cut, crush, shock or otherwise injure and to emphasize such hazards when enclosure doors are open or when gear, belt or other guards around moving equipment are open or removed, exposing unguarded hazards.
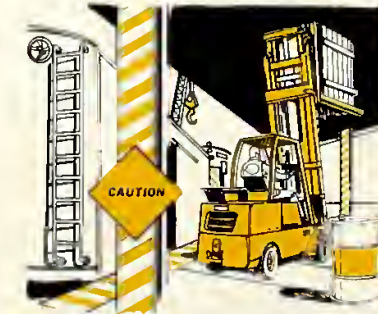
The following is a partial list of suggestions for the application of the color Orange:
· Inside of movable guards such as picker guards in textile plants.
· Safety starting buttons.
· Inside of transmission guards for gears, pulleys, chains, ect.
· Exposed parts (edges only) of pulleys, gears, rollers, cutting devices, power jaws, etc.

Yellow:

Shall be the basic color for designating caution and for marking physical hazards such as striking against, stumbling, falling, tripping and "caught in between". Solid Yellow, Yellow and Black stripes, Yellow and Black checkers (or Yellow with suitable contrasting background) should be used interchangeably, using the combination which will create the best attention in the particular environment.

The following is a partial list of suggestions for the application of the color Yellow:
· Construction equipment.
· Corner markers for storage piles.
· Covering guards for guy wires.
· Exposed and unguarded edges of platforms, pits and walls.
· Fixtures suspended from ceilings or walls which extend into normal operating area.
· Handrails, guardrails, or top and bottom of treads of stairways where caution is needed.
· Horizontal lips of vertically sliding counterbalanced elevator doors.
· Industrial locomotives (or areas thereon).
· Lower pulley blocks and cranes.

· Markings for projections, doorways, traveling conveyors, low beams and pipes, the frames of elevator ways and gates.
· Material handling equipment (or areas thereon).
· Pillars, posts or columns which might be struck.
· Stripe along sides of freight-car-loading plates or runways.
· Vertical edge of horizontally sliding pairs of fire doors.
· Waste containers for explosives or highly combustible materials should have a yellow band around the container. The width should not be more than ⅓ the height of the can. Wording to indicate the contents should be painted on the yellow band in large red letters such as EXPLOSIVE, COMBUSTIBLE, or the name of the material in the container.
· Caution signs.
· Piping systems containing dangerous materials.
· Yellow shall also designate warnings against the starting, the use of, or the movement of equipment under repair or being worked on.
· Location and display of warnings: warnings such as painted barriers, flags, etc. should be located at starting point or power source of machinery and displayed conspicuously on the following:

Elevators; ovens and vats; tanks; kilns; boilers; electrical controls; dryers; valves; vaults; scaffolding; ladders

Red:

Shall be the basic color for the identification of:
1. Fire protection equipment and apparatus.
2. Danger
3. Stop

A partial list of suggestions for the application of the color Red as follows:
· Fire Exit Signs
· Fire Alarm Boxes
· Fire Blanket Boxes

· Fire Buckets and Pails
· Fire Extinguishers (if painting the extinguisher is impractical or undesirable, color should be used on the housing, wall or support to identify location).
· Fire Hose Locations
· Fire Hydrants (Industrial)
· Fire Pumps
· Fire Sirens
· Post indicator valves for sprinkler (it is suggested that if a traffic hazard is involved, the top should be colored red and the barrel or post yellow and black stripes)
· Sprinkler Piping
· Safety cans or other portable containers of flammable liquids having a flash point at or below 80°F. (open cup tester) excluding shipping containers, shall be painted red with some additional clearly visible identification either in the form of a yellow band around the can or the name of the contents conspicuously stenciled or painted on the can in yellow.
· Danger signs shall be painted red.
· Emergency stop bars on hazardous machines such as rubber mills, wire blocks, flat work ironers, etc. shall be red.
· Stop buttons or electrical switches used for emergency stopping of machinery shall be red

Green:

Shall be used as the basic color for designating "safety" and the location of first aid equipment (other than fire fighting equipment).

The following is a partial list of suggestions for the application of the color Green to show the location of:
· Safety bulletin boards
· Gas masks
· First aid kits
· First aid dispensary
· Stretchers
· Safety deluge showers

Purple:

Shall be the basic color for designating radiation hazards. Yellow should be used in combination with purple for markers such as tags, labels, signs and floor markers.
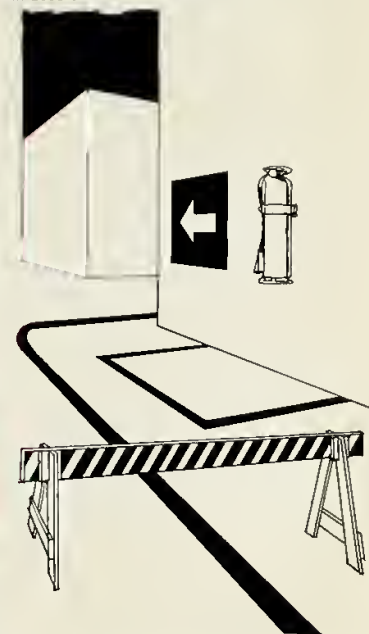

The following is a partial list of suggestions for the application of the color Purple:

- Rooms and areas (outside or inside buildings) where radioactive materials are stored or handled, or which have been contaminated with radioactive materials.
- Burial grounds and storage areas for contaminated materials and equipment.
- Disposal cans for contaminated materials.
- Containers of radioactive materials.
- Contaminated equipment that is not placed in special storage.
- Signal lights used to indicate when radiation-producing machines are in operation.

Black, White or Combinations of Black and White:

Shall be the basic color for the designation of traffic and housekeeping markings. Solid White, solid Black, single color striping, alternating stripes of Black and White, or Black and White checkers should be used in accordance with local conditions:

A partial list of suggestions for the application of Black and White or combinations thereof is as follows:

TRAFFIC:
- Dead ends of aisles or passageways.
- Location and width of aisleways.
- Stairways (risers, direction and border limit lines).
- Directional lines.

HOUSEKEEPING:
- Location of refuse cans.
- White corners for rooms or passageways.
- Drinking fountains and food dispensing equipment locations.
- Clear floor areas around first aid, fire fighting, or other emergency equipment.

Piping Identification

This color marking code complies with the American National Standard Scheme for the Identification of Piping Systems. Included in this scheme are fittings, valves and pipe coverings, but supports, brackets and other accessories are not included. Pipes are defined as conduits for the transport of gases, liquids, semi-liquids or plastics, but not solids carried in air or gas.

RECOMMENDED WIDTH OF COLOR BANDS AND SIZE OF LETTERS FOR VARIOUS DIAMETER PIPES

Outside Diameter of Pipe or Covering	Width of Color Band A	Size of Legend Letters B
¾ to 1¼	8	½
1½ to 2	8	¾
2½ to 6	12	1¼
8 to 10	24	2½
Over 10	32	3½

All dimensions are given in inches.

AMERICAN NATIONAL STANDARD'S CLASSIFICATION OF COLORS FOR BANDS AND LEGEND PLACEMENT

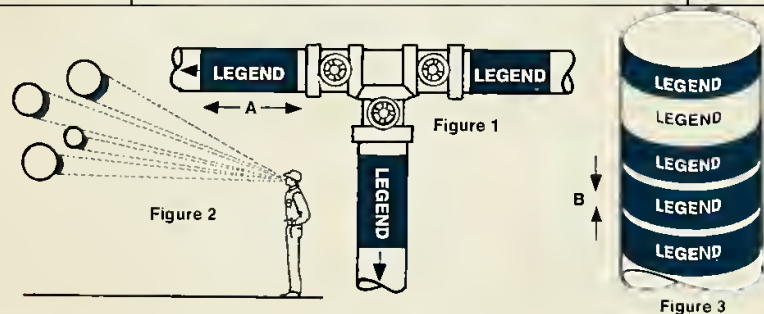| Color	Classification	Colors of Letters for Legend
SAFETY RED	F — FIRE PROTECTION MATERIALS AND EQUIPMENT Includes sprinkler systems and other fire and protection equipment.	WHITE
SAFETY YELLOW or SAFETY ORANGE	D — DANGEROUS MATERIALS Includes materials which are hazardous to life or property because they are easily ignited, toxic, corrosive at high temperatures and pressures, productive of poisonous gases or are in themselves poisonous. Also materials that are known ordinarily as fire producers or explosives.	BLACK
SAFETY GREEN	S — SAFE MATERIALS Include those materials involving little or no hazard to life or property in their handling. Also includes materials at low pressures and temperatures, which are neither toxic nor poisonous and will not produce fires or explosives.	BLACK
LIGHT BLUE	P — PROTECTIVE MATERIALS Includes materials which are piped through plants for the express purpose of being available to prevent or minimize the hazard of the dangerous materials mentioned above. It would include certain special gases which are antidotes, to counteract poisonous fumes, piped for the express purpose of release in case of danger. Also covers protective materials for purposes other than fire protection.	WHITE

Figure 1

Figure 2

Figure 3

Figure 1 depicts the use of color bands. On straight runs the bands should be installed at frequent intervals close to all valves and adjacent to all change-in-directions, or where pipes pass through walls or floors. If desired, the entire length of the piping system may be painted the main classification color.

Figure 2 demonstrates the positioning of lettering when pipes are located some distance above the operator's normal line of vision.

The use of the above table of dimensions is demonstrated in Figure 1A and Figure 3B. The arrows on the pipe represent the direction of flow. In cases where it is decided to paint the entire piping, the colors and sizes of legend letters stenciled on the piping job for identification of material conveyed should conform to the above table of dimensions.

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Cleanup: Mineral spirits.

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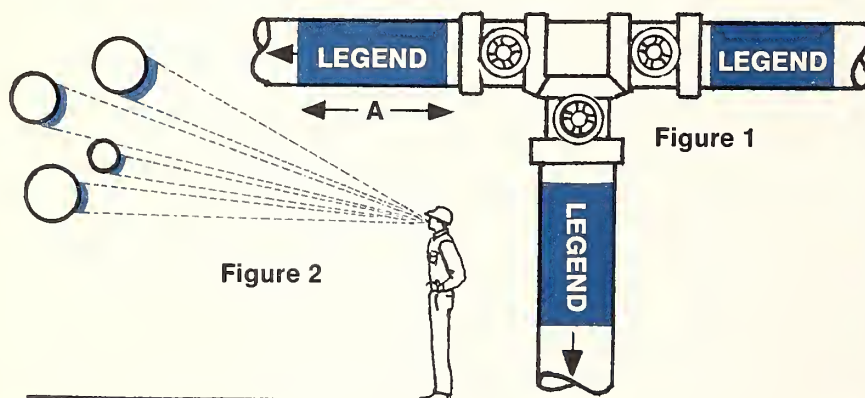| Color	Classification	Colors of Letters for Legend
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Figure 2 demonstrates the positioning of lettering when pipes are located some distance above the operator's normal line of vision.

The use of the above table of dimensions is demonstrated in Figure 1A and Figure 3B. The arrows on the pipe represent the direction of flow. In cases where it is decided to paint the entire piping, the colors and sizes of legend letters stencilled on the piping job for identification of material conveyed should conform to the above table of dimensions.

Extracted from American National Standard Scheme for the Identification of Piping Systems, A13.1-1956, with the permission of the publisher, The American Society of Mechanical Engineers, 345 East 47th Street, New York, N.Y. 10017.